

W5YI

Nation's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable. May be reproduced providing credit is given to The W5YI Report.

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THE 1995 AMATEUR RADIO YEAR IN REVIEW!

Every year about this time we pause to reflect on the Amateur Radio happenings of the past 12 months. Ham radio never stays the same - and 1995 was no exception! Here are what we feel are the major ham and commercial radio stories of the past year.

Ham radio growth

The No-Code Technician continues to come on strong! As of December 1, 1994, the amateur census of individual active amateur stations stood at 664,650. A year later the figure was 705,994. Between 1991 (the beginning of the No-Code Technician license) and 1993, the ham ranks swelled by more than 8% a year.

Census of Active Amateur Radio Stations - 10 Years

Year	Extra	Adv.	Gen.	Tech.*	Nov.	Total:
1985	38305	97781	117082	83387	77087	413642
1986	40989	97821	115998	85431	79019	419258
1987	43608	98383	114396	92618	82296	431301
1988	46735	98465	112974	100878	78988	438038
1989	50070	101904	116944	114507	85022	468447
1990	53520	105102	119552	126543	92230	496947
1991	57174	107485	122462	155368	96711	539200
1992	60986	109769	124924	189721	98950	584350
1993	65127	112705	127185	225521	100098	630636
1994	68062	114888	128843	254048	98809	664650
1995	72380	117089	129962	289483	97080	705994

* = Includes both Technician and Tech. Plus operators.

In 1994, the increase dropped to 5.4%. 1995

saw a 6.2% increase. Actually, the Amateur Radio Operator Census is somewhat overstated beginning in 1989 due to the implementation of the 10-year term license in 1984. The drop-out rate (amateurs who do not renew their ham tickets) had been around 15,000 annually (2%).

But between 1989 and 1993 no amateur licenses expired as would have been the case if they had received a five year license between Jan. 1984 and Dec. 1988. Inactive amateurs and "silent keys" were carried on the active amateur service roles for another five years before being dropped.

In 1994, expirations began again. These were Amateurs licensed for a ten year term in 1984 (the first year of the ten year license) who did not renew. The bottom line is that the amateur census after 1989 is really not comparable with prior years. Note that the number of ham radio operators grew by an annual average of 8,000 between 1985 and 1988 (about 2%) and skyrocketed to an average of 38,000 (8%) afterward. The increase is due to the difference between the five and ten year license term ...and, of course, the emergence of the No-Code ham ticket in early 1991.

The number of No-Code Technicians stood at 119,550 on Dec. 1, 1994 ...and 149,745 a year later. It is interesting to note that while the total ham ranks expanded by 41,344 last year, 30,195 (or 75%) of the increase was accounted for by the No-Code Tech. Ten years ago, 20% of all

amateurs (83,387) held a Technician ticket which required 5 wpm code proficiency. Today that figure (which includes No-Code Technicians) is 289,483 (or 41% of all amateurs).

Another interesting fact is that there were 129,386 Technician Plus Operators when the No Code ticket began in February 1991. It appears that nearly five years later, there are only 10,352 more ...less than a 2% annual increase. (See statistics on page 6.)

FCC POSITIONED TO ISSUE VANITY CALL SIGNS

For more than two years now, amateurs have been closely watching the progress of "Vanity" call signs. The ability to choose a specific station call sign has long been a top desire of the amateur community.

Responding to a 1993 NPRM, amateurs in 1994 told the FCC how they felt the program should be handled. The FCC adopted final rules on PR Docket 93-305 on Dec. 23, 1994 and everyone looked forward to ordering their shiny new station call sign in 1995.

Initially the FCC proposed that each applicant for a "Vanity" call sign would list a maximum of ten call signs in order of preference. The Commission said they would implement the new system by using a series of four "starting" gates and a fee of \$70.00 for a ten year term would be charged for the call sign. But due to new thinking this was changed to 25 call signs being listed, five starting gates and a \$30.00 fee.

The ARRL wanted all vanity call signs to be from the call sign region of the applicant's mailing address but the FCC denied their reconsideration request. The Commission did agree, however, to limit the assignability of call signs designated for amateurs with mailing addresses outside the continental U.S. to licensees having a mailing address in those areas.

Another change to the program was made when the ARRL and other amateurs convinced the FCC that an applicant should not be eligible to obtain a higher class call sign once held by a deceased relative. A new Gate 1-A was established so that ham clubs could pick up the call sign of a deceased member if unclaimed by a close relative.

The FCC said the first gate would open as soon as the new "Vanity" call sign application Form 610-V was issued and the Commission's Gettysburg licensing facility was prepared to begin processing the applications. The Form 610-V was issued on Nov. 30, 1995 and it appears that the FCC might open Gate number one in January. That is if the Commissioner's can dispose of still more *Petitions for Reconsideration*.

Several new "sequential call sign blocks" were added early in the year, but they have yet to be implemented. Among them, Hawaii now has the region numeral 7 in addition to 6 and Puerto Rico is also numeral 3 in addition to 4.

FCC STREAMLINES AMATEUR LICENSE HANDLING

On January 13, 1995, the FCC gave the go ahead to the VECs to electronically submit "computer-to-computer" all Form 610 Amateur Service applications for new and upgraded licenses to their Gettysburg office. The long delay in processing an amateur ticket (up-to-3 months in some cases) was dramatically reduced to almost over-night service. All applications uploaded to the FCC during the day are processed that night and posted to the Internet.

The FCC also implemented a system of electronically "granting" Amateur Radio operator licenses. No longer must an applicant wait to have a hard copy of the license before beginning ham band operation. Amateurs are considered licensed once their data appears in the FCC amateur service database.

In May, the FCC decided not to adopt its temporary operating proposal since Amateur licenses are now being quickly issued. The procedure would have allowed examinees to immediately go on the air using a WZ prefix followed by an area numeral and the examinee's initials.

In late fall, a new FCC Form 610-R "Application for Renewal of Amateur Radio Station License" was mailed to amateurs whose station/operator license would be expiring. Providing there are no changes, this form renews a ham license when the applicant signs, dates and returns it to Gettysburg.

FCC PROPOSES SEVERAL RULE AMENDMENTS

On May 8th, the FCC proposed five different Part 97 Rule changes that would:

(1.) provide for an on-site VE manager. The "Session Manager" would have overall responsibility at license examinations for record keeping, planning and supervising the activities of the administering VEs;

(2.) allow former amateurs to obtain their previously held license class without retaking the required examinations. In effect, this would make all amateur operator licenses valid for life. (Lifetime operator licenses were initially proposed by the ARRL.)

(3.) amend the rules to require a minimum of four (rather than two) amateurs to form an organization eligible for a club station license;

(4.) provide a new "special event station vanity call sign system" for short duration Amateur operations of special significance; and

(5.) allow amateurs greater flexibility in the use self-assigned indicators with their call sign.

NEW "FAMILY RADIO SERVICE" PROPOSED

The FCC proposed a new (non-Amateur) unlicensed *Family Radio Service* on June 22nd that would allow the public to use 14 UHF (460 MHz) channels sandwiched in between existing GMRS (General Mobile Radio Service) channels. The public and equipment

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makers generally were in favor of the new short-range low-power two-way voice service. GMRS licensees, however, were opposed. They said they needed the spectrum for future expansion spectrum and questioned whether the public would voluntarily comply with the radio rules.

INTERNATIONAL AMATEUR RADIO PERMIT

The ARRL filed a 30-page petition on July 19th seeking to implement the *International Amateur Radio Permit*. The one year term IARP would allow amateurs to operate in certain visited countries without the necessity of further licensing. There are only two classes of IARP: (1) No-Code VHF/UHF and (2) "All Band" for those with proven Morse code proficiency.

LICENSING OF CLUB STATIONS RESUMED

The FCC resumed licensing of new club stations on March 24, 1995. More than 1,500 new club call signs were sequentially issued during 1995 from the Group D (2-by-3) call sign block bringing the number of FCC-licensed clubs to over 4,000. They may be later traded in for a "Vanity" call sign.

FCC ABOLISHES ALL COMMERCIAL RADIO OP FEES

While the regulatory fee for amateur station "Vanity" call signs was reduced from \$70 to \$30, the regulatory fees for all Commercial Radio Operator licenses were abolished entirely! The Commission had originally planned to charge a \$105 fee for the lifetime GROL (General Radiotelephone Operator License) based on a "lifetime" of 15 years at \$7.00 a year. That was never implemented due to a controversy about 15 years representing a lifetime.

The FCC in 1994 set the regulatory fee for the balance of the commercial licenses which required applicant testing (the Marine Radio Operator Permit, the GMDSS and Radiotelegraph) at \$35.

This past year, however, all Commercial Radio Operator regulatory (but not testing and application) fees were strangely abolished.

COMMERCIAL RADIO UTILIZES AMATEUR SYSTEMS

During 1995, the FCC revised the question pools associated with the General Radio Telephone Operator License, the Radar Endorsement, the Marine Radio Operator Permit and the GMDSS Radio Operator/Main-tainer licenses. The Commercial Radiotelegraph question pools were not revised ...and there is very little demand for commercial radiotelegraph examinations.

In April, the FCC approved temporary operating authority for commercial radio operators. The system is similar to the one employed in the Amateur Service with immediate operation granted by an examination "credit" document called a PPC (Proof-of-Passing Certificate.)

In December, the FCC began a process which looks toward implementing the electronic filing of Com-

mercial Radio Operator license applications, permits and endorsements. It is based on the successful application Form 610 electronic filing system used in the Amateur Service.

ANTENNA STRUCTURES MUST BE REGISTERED

On January 12, 1995, the FCC proposed a procedure whereby certain antenna structures which are subject to FCC notification must be registered. These are towers that are taller than 200 feet in height or near aircraft runways. The FCC adopted their proposal on December 23rd. Effective July 1, 1996, all new antenna structures that require FAA clearance must be registered with the FCC. Existing towers will be registered over a two year period ending June 1998. Registration is achieved by completing new FCC Form 854, "Application for Antenna Structure Registration."

ON THE CONGRESSIONAL FRONT...

Senate and House telecommunications power swung from Democrat to Republican as voters got fed up with the status quo. Balancing the budget, reduced government spending and tax cuts became the marching orders for the 104th Congress. Even though the FCC is a big contributor to the U.S. treasury through its radio spectrum auctions, the Commission is criticized as holding back progress and its demise is contemplated.

During the year, Congress worked feverishly on rewriting the Communications Act of 1934 which would deregulate telecommunications. The years ahead will see telephone, cable, television, and online services entering each other's business.

FIRST BROADBAND AUCTION NETS \$7.7 BILLION

The first auction of commercial PCS (Personal Communications Services) spectrum ended in March with some \$7.7 billion being raised for the U.S. treasury. PCS licenses were sold by the FCC in 99 major markets. While still the largest sale of public assets in history, proceeds were about half the amount expected.

Even though the Commission was by far the biggest contributor to the U.S. budget, the Republican leadership said the FCC was "too regulatory" and not needed in a deregulated telecommunications environment: "Like all federal agencies, the FCC will regulate more heavily when given the money and people with which to do so."

FCC Chairman Reed Hundt announced on August 17 that he will substantially cut back FCC staff and facilities ...especially in the Compliance and Information Bureau. The CIB was formerly called the Field Operations Bureau. FCC staff is to be reduced by about 10%. All monitoring stations will permanently closed and only 17 field offices will remain open.

The FCC receives some 30,000 complaints every year about radio frequency interference to residential

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electronic equipment. To provide better service to the public, the FCC announced on July 19th that it is undertaking a new pilot program to privatize RF interference handling.

ON THE INTERNATIONAL FRONT...

Although downplayed at worldwide meetings covering the Amateur and Maritime services, the International Amateur Radio Union believes that ham radio still needs manual Morse code. Made up of representatives of various national Amateur Radio societies, the IARU has official observer status at spectrum conferences of the ITU. The IARU concluded that Morse code was useful as an international language ...and for its simplicity and ease of equipment construction at reduced cost.

ORACLE, a New Zealand organization dedicated to eliminating Morse proficiency as a licensing condition, convinced their government to propose abolishing the controversial code requirement at the World Radio Conference held in Geneva between Oct. 23 and Nov. 17, 1995. Several nations, including the United Kingdom were in favor of the move. As a result, WRC-95 agreed to include the matter in the agenda of the 1999 World Radio Conference.

AMATEURS FLOCK TO WIRELINE COMMUNICATIONS

Hundreds of ham operators, clubs and organizations set up home pages on the Internet's *World Wide Web*. Using new audio technology amateurs can now "work DX" without the necessity of having a ham radio license ...or even an HF transceiver. All that is needed is an off-the-shelf multi-media PC with special audio "telephone" software. The resulting communications is very similar to radio ...but more predictable! The big question for the future, is what impact will the Internet have on the Amateur Radio Service.

AMATEUR RADIO IN SPACE...

There were four SAREX (Shuttle Amateur Radio Experiment) missions during 1995. A record fifteen astronauts aboard the four shuttle flights were licensed amateur radio operators. They included: (STS-67, March 2) Steve Oswald, KB5YSR, Bill Gregory KC5MGA, Wendy Lawrence KC5KII, Tammy Jernigan KC5MGF, Sam Durrance N3TQA and Ron Parise WA4SIR. STS-70's June 8th liftoff was delayed when woodpeckers damaged the Discovery shuttle.

STS-71, June 27 went first with Charlie Precourt KB5YSQ and Ellen Baker KB5SIX. They were followed by (STS-70, July 13) Don Thomas KC5FVF and Nancy Curie KC5OZX. On Nov. 11th, STS-74 blasted off with five astronaut amateurs: Ken Cameron KB5AWP, Jim Halsell KB5NRI, Jerry Ross N5SCW, Bill McArthur KC5ACR and Chris Hadfield KC5RNJ (a Canadian who also holds the call sign VA3OOG.)

The bad news is that the orbiting of the Phase 3D

International Amateur Radio Satellite is being delayed until Sept. 1996. The good news is that the launch will cost the amateur community about \$1 million ...which is less than expected.

FCC ALLOCATES 219-220 MHz TO AMATEUR USE

On March 17th, the FCC Commissioners authorized the Amateur Service to share one megahertz of the 1.25 meter ham band on a secondary basis with the (inland waterway) Maritime Service. The allocation was in response to a petition submitted by the American Radio Relay League who said that the loss of 220-222 MHz left the Amateur Service without a reasonable substitute for high speed digital "backbone" links. The ARRL volunteered to be a single national contact point of a database of 219-220 MHz operators.

On October 7th, repeater coordinators met "...to respond to an FCC request that it be provided with a single point of contact (SPOC) with the coordination community..." At the meeting, however, the FCC said they did not make such a request. A committee was appointed to look into the SPOC concept and to report their findings to the FCC.

W5YI SEEKS AMATEUR BROADCASTING CURB

We filed a *Petition for Rulemaking* in March seeking to relieve the HF bands of what amounted to intrusive international broadcasting. The object of the petition was to preclude amateur stations from arbitrarily transmitting on top of ongoing two-way communications without first monitoring the frequency.

We felt that some stations - such as K1MAN - were abusing the one-way information bulletin rules. Since the HF bands are widely considered to be the most congested in the Amateur Service, we suggested that all bulletins be moved up to VHF and higher frequencies.

The FCC accepted the petition, assigned it RM-8626 and hundreds of comments were filed with the FCC. The ARRL took the petition personally and said it would adversely affect the transmissions of W1AW. They countered with a filing that was very critical of the Commission's past enforcement record.

AUTOMATIC CONTROL OF HF PACKET APPROVED

This matter was basically a "turf struggle" between old (manual) and new (data) technology ...the DXers vs. the packeteers. Amateur HF packet operations had been allowed for several years under a *Special Temporary Authority* granted by the FCC. The big concern was that if left unchecked, HF packet "robot" stations would interfere with ongoing ham band operation.

The dilemma was solved when an IARU Region 2 meeting produced an HF band plan which provided for the herding of automatically controlled data stations into eight specific subbands in the 80, 40, 30, 20, 17, 15, 12 and 10 meter ham bands.

COMPUTER TECHNOLOGY

- **The Wall Street Journal says that 50% of all households with an income of \$50,000 and higher now have a PC.** By contrast, only 14% of households with incomes under \$30,000 own a computer. Multi-PC homes is expected to keep the sales boom alive. A New York based research firm said that 50 million homes will have more than one PC by the year 2000 - more than double the amount today.

Both Compaq and Acer plan to introduce new powerful 100-MHz Pentium PCs with the latest features for under \$1,500 in 1996. Included will be 4x CD ROM drives, 8 MB RAM and a 1,000 MB hard drive. The average PC selling price has been \$2,000.

Compaq, Packard-Bell and Apple all shipped about the same amount of PCs in 1995. Each had about an 11.5% market share. Although denied, there have been widespread rumors that Packard-Bell is been having financial trouble.

The firms with the biggest 1995 sales gains were Hewlett-Packard and Acer. They nearly doubled their business. The big losers: IBM and AST. Twenty-two million personal computers were sold in 1995 - up 20% from 1994.

More competition is on the way! Motorola plans to be in the PC business next year. Their computer will rely on Microsoft's NT operating system ...and will be able to run Apple/Macintosh software. Their PowerPC chip can switch back and forth between operating systems.

AT&T got out of the PC manufacturing business but they will resell Personal Computers built by Intel. They expect to sell 250,000 units. Intel already makes entire Toshiba and Hewlett-Packard PCs. They shortly will manufacture server motherboards and complete servers.

Sony is also poised to enter the PC market. Their "info-tainment" PCs will be essentially built by Intel under the Sony label. Intel will make all of the boards which Sony will assemble into a "box."

To give you an idea of Intel's skyrocketing growth, in 1985 their sales were \$1.4 billion vs \$11.5 billion today. Intel made \$2.3 billion profit in last year.

- **Everyone is waiting for the \$500**

diskless "Sub-PC." Widespread distribution is probably still two years away. Oracle, however, plans to deliver its first sub-\$500 "Net PC" system in February.

The new thinking is that a lot of hardware and software will be unnecessary in the years to come. And whatever is needed can be drawn from the Internet. Sort of like community networked property. Computer and software firms would lose out but terrific news for consumers. Microsoft and Intel are already on notice that they face big-time competition from the Internet. The "Wintel standard" is indeed in jeopardy.

Online "interactive content" software runs on any computer, you won't have to fuss with installation or buy upgrades or even use valuable disk space to store the program. (The latest Microsoft Office takes up 55 megabytes of disk space!) And even if there is a cost, software purchased or leased from the Net will be cheaper since there are no packaging or distribution costs.

Multimedia accelerator chips are coming on the market that perform multiple tasks such as modem/fax, voice-mail, graphics, audio and video. As many as four or five peripheral boards can be eliminated.

The Internet appliance revolution is at hand. Virtually all electronic companies (including Thomson, Sony, Sega, Philips, Apple, Sun, Toshiba, ...Oracle) are working on inexpensive systems to bring the Internet into the living room.

There is already a Philips \$150 Internet "starter kit" available that turns a \$500 Interactive CD Player and a TV set into a web browser. Sega, the Japanese video game people, are working on a \$100 keyboard and modem that will allow their Saturn console to play video games online over the Internet.

In Japan, Sony has wide-screen high-definition TVs that double as PC monitors. Thomson is looking into downloading Internet content signals from satellites.

Hughes Network Systems has slashed the price of its DirectPC service which offers fast satellite delivery of information from the Internet's World Wide Web and other online sources. The DirectPC package (\$699) includes a 24-inch satellite dish and various hardware and software. DirectPC is more

than three times faster than digital telephone service. The user still uses regular phone lines to order data which is delivered at the rate of 400,000 bits a second by satellite.

- **Living dangerously! Unbelievably, 93% of all people who own a PC do not back up their system -- ever!** Only 7% of computers are equipped with a backup device. No longer can you efficiently feed in floppy disks to do a backup. The good news is that the price of backup tape drives has plunged dramatically. You can now buy high capacity tape storage systems for as little as \$200.

TELECOMMUNICATIONS

- **We saw a dramatic demonstration of "Internet Phone" at a local computer show held at the Dallas InfoMart last week.** It is truly amazing! You can talk with anyone who is similarly hooked up ...and there are more people online than you would guess. And the "call" is virtually free. Your only cost is for your PC and an Internet hookup.

Sound quality varies - but it is certainly better than sideband ham radio. And like Amateur radio, only one person can talk at a time. A major difference is that there is a short delay in getting a response due to voice compression and decompression.

Here's what you need to "talk" over the Internet. A 486 or Pentium PC with Windows (3.1 or Win95), a sound card, microphone, speakers, a 14.4 (or faster) modem and at least 8 MB of RAM. The "Internet Phone" software costs only \$60.

We have even heard about entrepreneurs setting up Internet telephone gateways linking large (and foreign) cities. Running your own phone company over the Internet may be of questionable legality - but frankly, I don't know why it would be prohibited! Who says you can't resell Internet communications? Unlike ham radio, there are no rules on the Internet. Anything goes as far as I know.

How long will it be before the public can call London by dialling a local number? You simply call a local server which is online with London. You tell the server on the other end what to dial

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by typing on your telephone keypad!

All you need is a foreign business partner and a couple of servers. Businessmen could charge 25% of the tariffed rate and still reap a bundle. I'm sure we will be hearing more about this as the possibilities start being tested.

- **Speaking of telephone service, look for AT&T to enter the local telephone market.** They have established five Local Service Organizations. AT&T is looking at offering service over existing cable TV lines as a way to bypass the so-called "local loop" now controlled by the Baby Bells they dumped in 1984.

AT&T is somewhat premature since Congress and the President have yet to approve telecommunications reform which will allow local and long distance telephone companies to compete on each other's turf. But it is coming.

- **Hubbard's United States Satellite Broadcasting (USSB) DBS Service has gone public to raise \$200 million** for marketing purposes and expansion. They will boost transponder power, repay debt and pay for two DBS satellites being built by Lockheed Martin. USSB is one of the two major consumer broadcast satellite services. They share a Hughes satellite with partner, DirectTV which is better known due to their massive sales promotion campaign.

The two services deliver some 175 DBS channels to 18-inch dishes. The IPO (Initial Public Offering) statement says that one million households now have DBS equipment capable of receiving both USSB and DirectTV. About half are now paying an average of \$25.50 monthly for the service. USSB lost \$67.2 million in fiscal 1995 versus a \$17.9 million loss in 1994.

"EchoStar", another DBS service is getting set to begin offering 70 channels from its DISH Network within a couple of months. That is, if everything goes well with a planned launch by a Chinese satellite company. A second satellite scheduled for a June 1996 launch will boost EchoStar's capacity to 200 channels. The service says it will charge less than USSB and DirecTV for its receiving equipment (marketed under the Magnavox name) and programming.

And two more DBS services (Tempo and Primestar) are also getting set to bid for orbital slots in January's DBS

spectrum auction.

WASHINGTON WHISPERS

- **The December issue of Wired magazine has an interesting article about telecommunications and "The Making of the President 2000."** It is about VP Al Gore and House Speaker Newt Gingrich "...the two leading futurists in American political life..." and their courtship with "the Information Highway, cyberspace and websites they can't describe much less locate."

The "G-boys" are second and third in the line of presidential succession. The story is basically about "digital politics" and how the Democrats and Republicans see telecommunications.

After last year's elections, House Speaker Newt Gingrich has emerged as the nation's high techie. Both agree that fundamental changes are taking place driven by computing and communications technology.

Gore coined the "information highway" phase and was one of the first members of Congress to set up a computer in his office and home. He would send e-mail at all hours of the day and night.

Gingrich spent his first full day as Speaker talking about almost nothing but computers and putting a Congressional website online. "Gore represented a mainframe mentality; Newt's mindset is dominated by the PC. Which is another way of saying that Al's the past and Newt's the future."

Strangely Gingrich does not use e-mail and admits he is "pretty primitive" about computers. The article tells about a conference hosted last summer in the Rockies by the Progress and Freedom Foundation on "Cyberspace and the American Dream."

The foundation which has "close ties" to Gingrich released their 110-page "doctrine of rapid, radical deregulation" at the meeting ...a statement of conservative thinking on telecommunications policy. The FCC would be disbanded and replaced with a tiny office in the executive branch. All broadcast, cable and telephone regulations would be scrapped. Spectrum would be privatized.

Gore's boyhood pal is FCC Chair-

man Reed Hundt. Gingrich wants to get rid of him and the entire FCC and let the technologies sort themselves out over the next decade ...to be revisited later to determine whether regulations are needed. In short, he wants government to simply "Get out of the way."

In true government fashion, however, the telecom bill under consideration increases the FCC responsibilities and oversight. Actually corporate America wants "selective deregulation" that gives them new freedoms but protects existing business. That takes a referee.

- A Jan. 1996 article in Wired also asks if **"Is Government Obsolete?"** Here are some quotes: "An information superhighway cannot be built under a canopy of federal tariffs, price controls, public policy mandates, and allocated markets. ...There is no way government can micromanage telecom without directly damaging all its hopes for an information highway and thus the best prospects for the future of the US economy. ...Much of what Washington once did should now be done by people acting together in their self-created social and economic communities. ...[But] ...it is not recommended that we trust the outcome solely to the corporate accountants and investment bankers."

- **The Telecom Reform Bill is indeed inching forward.** The Senate passed its version (S.652) in June, the House approved H.R.1555 in August. Congressional conferees (and lobbyists) are now trying to hammer out a compromise on such things as indecent online material, license terms, V-chips that block out the bad stuff, Bell company entry in long distance, radio/TV station ownership, cable and telephone rates.

Interestingly, the conferees agreed that the telecom bill should bar local communities, including homeowner associations, from writing zoning laws that prohibit DBS dishes. They also wrote into the legislation that the FCC should be authorized an operating budget that permits them to carry out the provisions of the bill. The lawmakers are trying to agree on a total package that will not be vetoed by Clinton.

The FCC was essentially closed during the first (Nov. 14) government shutdown ...and were furloughed again Dec. 18. They remain closed at this

writing. Less than 5% of FCC personnel are working.

Congress' main topic now is the federal budget and the telecom bill will continue into 1996 where the pressures of a presidential election year are certain to get in the way.

- **You will be buying a new \$850 sharper image digital TV or a \$150 converter sooner than planned.** Your current TV set could be obsolete within ten years ...six years sooner than planned by the FCC. It's being called the Clinton TV tax.

Coming up with budget money is now the primary Congressional and Administration objective. And it is not easy to get billions out of thin air but that is fast becoming standard Administration strategy.

Rather than cut Medicare benefits, the White House has now announced it plans to auction off the rights to existing TV broadcast channels by the year 2002. That is the year (seven years away) when all sides agree that the budget must be balanced. The effort could raise \$13 billion for the U.S. treasury. The administration plans to use some of the money to offer consumers discount vouchers which can be applied to the purchase of digital TV receivers.

The goal is for TV broadcasters to launch digital TV on new (free) spectrum and to hand their original analog channel back by 2005 which will have already been sold three years beforehand.

The National Association of Broadcasters is fiercely opposed. They say there are 220 million television sets in use and it will cost consumers \$187 billion to replace their TVs or \$33 billion to have digital set-top converters. Some members of Congress even want to auction the analog TV spectrum now.

An advisory panel has already recommended a new digital TV transmission system. FCC rulemaking looking toward adopting the new U.S. digital high definition television (HDTV) broadcasting standard is expected to be launched in January.

The computer industry is concerned that the new digital format might not be flexible enough to accommodate the anticipated continued rapid growth and provide compatibility between broadcasting and computers.

- **Michele Farqhar, the new head of the FCC's Wireless Telecommunications Bureau is now on board.** She replaces Regina Keeney who has been transferred. Ralph Haller (N4RH) and Gerald Vaughan continue as the Bureau's principal deputies. Haller will oversee private wireless, public safety, and enforcement and will serve as the Bureau's principal liaison with industry.

- **Due to the shutdown, electronic filing of amateur radio license applications and the beginning of commercial radio operator license filing has come to a screeching halt.** Examinees are calling the VECs for their new station call sign, but there is little that can be done until the FCC gets back to work.

- Both TIME and Broadcasting & Cable magazine ran feature stories about **"Muzzling the Internet."** As part of the telecommunications reform bill, Congress is passing legislation that imposes fines as high as \$100,000 and up to 2 years imprisonment on those who knowingly expose minors to online "indecentcy." Surfers will now have to prove that they are adults in order to view certain explicit web sites.

Consumer online services (such as AOL, CompuServe and Prodigy are protected from criminal prosecution as long as they take steps to block children's access to the sexual material.

There are already "obscenity" statutes on the books and the "...Justice Dept. has made it clear that it has all the laws it needs to police the Net for child molesters." The bill criminalizes online transmission of words and images "...that someone, somewhere in cyberspace might find offensive."

Indecency is protected by the First Amendment. The courts have held, however, that some forms of expression may be unsuitable for part or all of the broadcast day ...especially when children might be in the audience.

The Christian Coalition lobbied for a tougher measure and Congress has now reinstated the ban against online indecency. The American Civil Liberties Union has promised a "vigorous challenge" if the bill becomes law and believes that the Supreme Court will such a law unconstitutional.

- **The U.S. Supreme Court has**

agreed to review the constitutionality of the 1992 Cable Act which allows cable operators to censure programs they consider indecent. The basic question is, "...who has the right to censure programming on cable TV and, by extension, other telecommunications networks?"

- **The FCC is again looking into who owns home wiring.** It had previously decided that telephone wiring inside a residence belongs to the homeowner. Now they are looking into cable TV wiring ...especially now that cable companies will be offering telephone service.

CONSUMER ONLINE

- The Center for Democracy and Technology, a privacy and Civil Liberties Group in Washington, DC, wants to know **what happens to all the transactional information being collected at Web sites.** There are currently no privacy rules that apply to online services and the Internet.

The Interactive Services Association has drafted some guidelines which state that customers should be notified of a service's policy for selling customer information. And there should be an easy way to have their names excluded from lists being sold. Only name, address and the subscriber's "broad usage patterns" should be released.

- **Who are the primary users of online services and the Internet? It seems that many companies ...especially potential marketers and advertisers really want to know.** A Norwalk, Conn., research company found out that more women are entering cyberspace. The percentage of men is now 57%. It used to be 63%. And the number on users with a college degree is down from 37% to 33%. Half the people using an online service are single. Previously it was 58% married. And more people under the age of 30 are entering cyberspace. Internet and online services are heading toward mass media use.

- **Nielsen Media Research, however, had somewhat different results.** They say that there are roughly 24 million Internet users in the U.S. and Canada (11% of the population) who spend

as much time on the Net as they do watching rented videos.

The study discovered that 18 million people (8% of the population) are using the World Wide Web. CommerceNet, a group of firms that want to accelerate use of the Internet for electronic commerce, commissioned the study.

According to Nielsen, two-thirds of all Internet users are well-educated men and 53% are between 16 and 34 years old. 25% earn more than \$80,000 and 64% have at least one college degree. Most Internet access is done from work, not from home.

The Internet is also beginning to cut into TV viewing; 61% of the respondents said they are watching less television and spending more time online. 50% access the Internet from a dial-up connection with an Internet Service Provider (ISP) while 40% gain connection through their workplaces. Only 8% go through consumer online services such as Prodigy, AOL and CompuServe. Two-thirds said they would not be willing to pay a monthly fee to enter a web site.

- **Another research firm, the NPD Group, released data from its PC-meter study** - a tracking system that monitors how people spend time on their personal computer. The meter measures how long a PC is used and what software or online service is accessed after the user keys in their name age and sex.

NPD found that more home PC owners turn their computer on between 6 p.m. and 9 p.m. than any other time during the day. 60% were men (84% were male when the Net is entered stand-alone Internet access providers.) 28.3% said they had logged into an online service at least once.

NPD is in the process of expanding their study to include results about where users are going within a service and how much time they spend there.

- **More Internet statistics!** According to the Internet Society (Reston, VA), more than 120 million machines will be connected to the Internet by the end of the decade. More than half will reside in the United States. There are approximately 30 million U.S. users today, 56 million worldwide.

The World Wide Web was introduced in 1992. There are now more than

40,000 web servers. The Mosaic browser arrived in 1993 and led to the founding of Netscape Communications Corp. Netscape now accounts for 80% of graphical web browsing. Everyday 150 new businesses appear on the Net.

- **Microsoft and NBC plan to have a 24-hour all-news cable channel.** Each contributed \$200 million to the venture. It will be known as the MSNBC ...for the online Microsoft Network and National Broadcasting Company. The news channel will also carry text and graphics to computer users over the Microsoft Network which gets exclusive rights to NBC news programming.

- **Commercial online services are moving to the Internet to attract new subscribers.** There programming content is becoming accessible to all. You will shortly be able to access any consumer online service from the Internet by typing in a password.

America Online has launched its Global Network Navigator Internet only service. (\$14.95 per month for 20 hours and \$1.95 per hour afterwards.)

CompuServe plans to introduce Spryte Internet Access (\$4.95/month for 3 hours, \$9.95/month for 7 hours, \$19.95/month for 20 hours; additional hours \$1.95.)

Prodigy says they will announce an Internet-only service in 1996.

- **Forbes magazine ran a recent article on Internet web "Spiders."** A spider is web searching software that locates needed information. They scan the web and return with lists of information that you request. Although the web contains less than 1% of the world's publicly available data, there are millions and millions of documents. The problem is to get the ones that will help you.

You call up the "spider" by typing in its name, and when its home page appears, fill in the search field with a few key words or phrases. The first web spider appeared in 1994 when two Stanford University graduate students, David Filo and Jerry Yang, developed "David and Jerry's Guide to the Web." A few months later they renamed their service "Yahoo!." They incorporated and began making revenue through advertising in 1995. Here are the web addresses of the most popular web spiders:

<http://www.atext.com>
<http://www.infoseek.com>
<http://www.lycos.com>
<http://www.mckinley.com>
<http://www.opentext.com>
<http://www.webcrawler.com>
<http://www.metacrawler.com>
<http://www.yahoo.com>

- **The lowest price for Internet World Wide Web access comes from Quicken** - the popular low price personal finance software package used by some eight million people.

"**Quicken for 96,**" has a new feature that permits any user to dial up a Quicken site on the World Wide Web without cost! You then can use Quicken's built-in Netscape browser to read personal finance tips and review bank offerings. Free stock quotes are next!

But you can only access the Quicken web site for free. It costs \$1.95 per hour (with no minimum) if you want full Internet access, the lowest cost of any full Internet service provider. Quicken wants its customers online so that it can offer them electronic home banking.

- **The rules of the software game are changing. Instead of "controlling" the industry with established products, you give new programs away to establish standards. Then you sell it.**

Sun Microsystems and Netscape are teaming up to establish the programming standard on the Internet. Like Netscape which controls the browser market, Sun will distribute its new easy-to-use "Javascript" programming language to millions of users for free over the Internet. Javascript, which has taken the Internet by storm, lets users write software from prefabricated chunks of code.

Basically, "Java" lets the network be the computer and programmers only have to write one version for use on any system. The objective is to beat Microsoft and its new "Blackbird" and "Gibraltar" Internet programming languages to the marketplace. Microsoft is nervous. They don't dominate the emerging online world like they do the desktop.

- **So Microsoft is now offering their new Internet Explorer web browser for free.** It is included with Windows-95 and will be made available to its huge installed base of Windows 3.1 users.

W5YI REPORT

Nation's Oldest Ham Radio Newsletter

Page #9

January 1, 1996

AMATEUR SERVICE CENSUS - INDIVIDUAL STATIONS - DECEMBER 1, 1995

STATE	EXTRA	ADVANCED	GENERAL	TECH PLUS	TECHNICIAN	NOVICE	TOTAL
Alabama	1,127	1,732	1,794	2,129	2,684	1,006	10,472
Alaska	328	538	639	543	711	435	3,194
American Samoa	12	4	12	7	39	9	83
APO Miami	3	4	6	6	30	3	62
APO New York City	29	30	39	45	87	15	245
APO San Francisco	28	19	28	34	124	19	252
Arizona	1,500	2,597	2,700	2,843	3,863	1,239	14,742
Arkansas	740	1,059	1,061	1,238	1,806	609	6,513
California	8,777	16,204	16,601	22,423	27,119	16,820	107,944
Colorado	1,240	2,130	2,157	2,260	2,480	1,302	11,569
Connecticut	1,120	1,572	1,932	1,766	1,394	1,660	9,444
Delaware	197	232	296	304	261	207	1,497
Dist. of Columbia	81	93	134	64	74	78	524
Florida	4,356	8,036	9,419	7,864	6,965	6,773	43,413
Georgia	1,565	2,579	2,627	2,998	3,127	1,490	14,386
Guam	60	55	61	104	157	167	604
Hawaii	321	517	562	682	619	688	3,389
Idaho	336	600	728	705	962	405	3,738
Illinois	2,609	4,198	4,831	4,852	4,745	3,528	24,763
Indiana	1,521	2,435	2,787	3,359	3,323	2,046	15,471
Iowa	735	1,437	1,523	1,199	1,176	1,065	7,135
Kansas	747	1,182	1,603	1,369	1,716	1,032	7,649
Kentucky	861	1,222	1,463	1,709	2,210	1,185	8,650
Louisiana	848	1,368	1,420	1,406	1,592	910	7,544
Maine	499	732	1,050	772	840	558	4,451
Maryland	1,509	2,304	2,259	2,164	2,374	1,472	12,082
Massachusetts	2,082	2,794	3,351	3,246	2,462	2,263	16,198
Michigan	2,214	3,673	4,321	4,294	4,412	2,603	21,517
Minnesota	1,171	2,018	2,341	2,012	2,089	1,295	10,926
Mississippi	493	826	854	832	1,131	537	4,673
Missouri	1,408	2,282	2,642	2,319	2,603	1,530	12,784
Montana	307	465	593	451	685	365	2,866
Nebraska	400	791	981	767	695	485	4,119
Nevada	411	701	826	718	1,030	366	4,052
New Hampshire	654	760	987	996	948	575	4,920
New Jersey	2,203	3,235	3,533	3,688	2,797	2,603	18,059
New Mexico	616	944	908	837	1,365	374	6,044
New York	3,869	5,872	6,842	7,177	6,774	6,907	37,441
North Carolina	1,837	2,893	3,090	3,326	4,167	1,973	17,286
North Dakota	162	250	375	313	344	243	1,687
Northern Mariana Is.	48	22	16	8	59	10	163
Ohio	3,162	5,030	5,637	7,466	6,665	4,080	32,040
Oklahoma	945	1,524	1,487	1,845	2,263	1,115	9,179
Oregon	1,244	2,201	2,745	2,357	2,629	1,605	12,781
Other	1	2	1	2	1	7	14
Pennsylvania	3,082	4,545	5,211	5,142	4,396	3,594	25,970
Puerto Rico	280	580	750	2,247	665	4,295	8,817
Rhode Island	335	378	538	587	387	413	2,638
South Carolina	694	1,103	1,364	1,278	1,350	681	6,470
South Dakota	180	318	380	256	281	174	1,589
Tennessee	608	2,383	2,308	3,040	3,159	1,463	13,861
Texas	4,718	7,591	7,809	8,281	9,158	4,353	41,911
Utah	478	834	768	1,616	2,774	748	7,218
Vermont	260	335	434	403	514	230	2,176

AMATEUR SERVICE CENSUS - INDIVIDUAL STATIONS - DECEMBER 1, 1995 (Continued)

STATE	EXTRA	ADVANCED	GENERAL	TECH PLUS	TECHNICIAN	NOVICE	TOTAL
Virgin Islands	53	56	80	58	71	46	364
Virginia	2,096	3,118	3,086	3,161	3,422	2,016	16,899
Washington	2,382	3,823	4,580	4,807	5,524	3,076	24,161
West Virginia	581	751	948	1,195	1,799	844	6,118
Wisconsin	1,174	1,871	2,192	1,878	2,242	1,271	10,628
Wyoming	180	241	283	290	408	219	1,619
11/95 TOTAL	72,380	117,089	129,962	139,738	149,745	97,080	705,994
% of Total:	10.3%	16.6%	18.4%	19.8%	21.2%	13.7%	100%
2/91 TOTAL	54,246	105,628	120,241	129,386	- 0 -	94,859	504,360
% of Total:	10.8%	20.9%	23.8%	25.7%	0%	18.8%	100%
Increase since							
No-Code License:	18,134	11,461	9,721	10,352	149,745	2,221	201,634

● **"America's Most Wanted Cyberthief"** may turn out to be the subject of a movie! Did you see the story about **Kevin D. Mitnick, N6NHG** (General Class) in the Dec. 4th issue of *Newsweek*. Mitnick reportedly broke into the military's NORAD air-defense computers at age 17. In the following ten years he hacked into various phone companies, cellular networks, credit bureaus, university and corporate computers ...and more.

Two books (due out in January) tell of his exploits as a computer hacker. One is entitled **"Takedown: The Pursuit and Capture of Kevin Mitnick, America's Most Wanted Computer Outlaw - By the Man who did it."** The author, Tsutomu Shimomura treats Mitnick as a hardened criminal whom he tracks down. Mitnick had infiltrated Shimomura's computers at the San Diego Supercomputer Center.

The other book, **"The Fugitive Game"** by Jonathan Littman (a San Francisco investigative reporter) tells about Mitnick's flight from justice in a completely different light. His slant is that he is not a monster. "Mitnick hacked for information and power, not for money or out of malice." Littman believes that the media "...hyped his supposed crimes and Shimomura's role in his capture partly to procure juicy book and movie deals."

Littman, it turns out, was in daily contact with Mitnick right up until his arrest earlier this year in North Carolina. He says government investigators even hired a criminal hacker to track Mitnick to "...maybe entice him into the open."

Mitnick has now been sent back to Los Angeles where he "...is expected to plead guilty to a negotiated charge of computer fraud." He faces a jail term of up to eight years. In any event, it appears we haven't heard the end of Mitnick. "Book and movie deals reportedly worth \$2 million..." are in the works.

● **CQ Communication's new "CQ Contest" magazine has hit the street.** It will be published ten times a year with Bob Cox K3EST, CQ World Wide Contest Director as editor. (Subscription: \$30 per year via first class mail. Tel. 516/681-2922). It's inaugural issue tells about ham radio in Japan. Yoshi Matsuda JH4NMT

(and WD2M) says that theoretically there are 1,350,000 Japanese radio amateurs but a more accurate figure seems to be 30 or 40% of that figure. Most operate on 144 MHz or 430 MHz FM.

All operator licenses are issued for life (which accounts for the huge number of licensees); station licenses and call signs are valid for five years. Yoshi says "The number of active HF stations seems to be near 50,000."

There are four license classes. 92.2 percent of all Japanese ham operators hold the "no-code" Fourth Class ticket. In apparent violation of international amateur radio law, Fourth Class operators may operate voice on the 80, 40, 15 and 10 meters with an output power of 10 watts.

● **AMSAT recently issued a status report on its Phase 3-D Amateur satellite.** The spaceframe has been completed and is in the clean room at the Phase 3-D Integration Laboratory established at the Orlando Florida International Airport. The spacecraft wiring is now being constructed. Some of the propulsion system hardware has also been installed. Antennas for 2-m, 70-cm, 23-cm ...and dishes for 2.4, 5.6, 10 and 24 GHz have been designed and are being fabricated. The container in which Phase 3-D will ride during launch has been completed. After testing in Marburg, Germany, the electronic assemblies will be shipped to Orlando. Good progress is being made on the GPS equipment and RUDAK computer.

AMSAT-NA members have contributed about \$480,000 with ARRL fundraising adding another \$300,000. DARC in Germany and AMSAT-UK together raised approximately \$800,000. The German government kicked in about \$600,000. The total already raised for the Phase 3-D effort is an impressive \$2.4 million.

AMSAT-NA's expenses have totaled approximately \$665,000 thus far and only \$480,000 has been raised. Another \$200,000 is needed. Can you help? The Hoover Foundation has pledged to match all Phase 3-D contributions. Contributions go to: AMSAT Phase 3-D, 850 Sligo Ave., Suite 600, Silver Spring, MD 20910.